

Appl. No. 09/982,279  
Amdt. Dated January 30, 2006  
Reply to Office Action of November 28, 2006

Docket No. CM01969G  
Customer No. 22917

### **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

1. (currently amended) A collision mitigation method used in a communication system, the method comprising the steps of:

in a given first transmission pass, estimating a signal from a first source device that has been received over a first ~~code~~ channel, wherein the step of estimating includes determining predetermined information sent from the first source device and wherein the first transmission pass is one of multiple transmission passes associated with a multiple transmission pass channel selection method that uses the predetermined information for selecting a channel over which the first source device sends at least a portion of the predetermined information during each of the multiple transmission passes;

determining, based on ~~a the code channel selection method that uses predetermined information~~, a set of ~~code~~ channels that the signal from the first source device will be received over in at least one subsequent transmission pass of the multiple transmission passes; and

based on the steps of estimating and determining, removing the estimated signal received from the first source device from a received composite signal received in the at least one subsequent transmission pass, the composite signal comprising signals transmitted from a plurality of source devices over a common second code channel that, wherein the second code channel is included in the determined set of code channels.

2. (previously presented) The method of claim 1 wherein the step of estimating comprises estimating a received signal strength of the signal from the first source device.

3. (original) The method of claim 1 wherein the step of estimating utilizes error correction coding.

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4. (currently amended) The method of claim 1 wherein the steps of claim 1 are repeatedly performed until all signals from the plurality of source devices are determined.

5. (cancelled)

6. (currently amended) The method of claim 1 wherein the first ~~code~~ channel and the second ~~code~~ channel are the same.

7. (currently amended) The method of claim 1 wherein the first ~~code~~ channel and the second ~~code~~ channel are different.

8. (currently amended) The method of claim 1 wherein the first ~~code~~ channel is orthogonal to the second ~~code~~ channel.

9. (currently amended) The method of claim 1 wherein the first ~~code~~ channel is quasi-orthogonal to the second ~~code~~ channel.

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10. (currently amended) A collision mitigation method used in a multiple transmission pass communication system, the method comprising the steps of:

in a ~~given~~ first transmission pass, estimating a signal from a first source device that has been received over a first ~~code~~-channel, wherein the step of estimating includes determining predetermined information sent from the first source device and wherein the first transmission pass is one of multiple transmission passes associated with a multiple transmission pass channel selection method that uses the predetermined information for selecting a channel over which the first source device sends at least a portion of the predetermined information during each of the multiple transmission passes;

determining, based on ~~a the~~ the ~~code~~-channel selection method ~~that uses predetermined information~~, a set of ~~code~~ channels that the signal from the first source device will be received over in at least one prior or subsequent transmission pass of the multiple transmission passes ~~and will be received over in at least one subsequent transmission pass~~; and

based on the steps of estimating and determining, removing the estimated signal received from the first source device from a ~~received~~ composite signal received in the at least one prior or subsequent transmission pass, the composite signal comprising signals transmitted from a plurality of source devices over a common second ~~code~~ channel that, ~~wherein the second code channel is included in the determined set of code channels~~.

11. (cancelled)

12. (currently amended) The method of claim 10 further comprising the step of storing all signals received over their respective ~~code~~ channels in each transmission pass.

13. (currently amended) The method of claim 10 wherein in each transmission pass, a plurality of source devices transmit their respective signals over their selected ~~code~~ channels to a common destination device.

14. (original) The method of claim 10 wherein the step of estimating utilizes error correction coding.

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15. (currently amended) The method of claim 10 wherein the steps of claim 10 are repeatedly performed until all signals from the plurality of source devices are determined.

16. (currently amended) A collision mitigation method used in a communication system, the method comprising the steps of:

in a first transmission pass, estimating ~~receiving~~ a signal from a first source device that has been received over a first code channel, wherein the step of estimating includes determining predetermined information sent from the first source device and wherein the first transmission pass is one of multiple transmission passes associated with a multiple transmission pass channel selection method that uses the predetermined information for selecting a channel over which the first source device sends at least a portion of the predetermined information during each of the multiple transmission passes in a first transmission pass;

determining, based on ~~a the~~ code channel selection method that uses predetermined information, a set of code channels that the signal from the first source device will be received over in at least one subsequent transmission pass of the multiple transmission passes; and

based on the ~~steps~~ step of determining, estimating a total number of source devices in the system based on at least the estimated signal from the first source device and a number ~~code~~ of channels in the set of channels each having ~~colliding~~ signals from at least two source devices.

17. (previously presented) The method of claim 16 wherein the steps of claim 16 are repeatedly performed until a number of known source devices is equal to the estimated total number of source devices.

18. (original) The method of claim 16 wherein the steps of claim 16 are repeatedly performed until a predetermined confidence level is obtained.

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19. (currently amended) A collision mitigation method comprising the steps of:  
receiving a composite signal from a plurality of source devices over a plurality of available channels over a code channel;  
~~estimating a variance of an absolute value of the signal; and~~  
~~based on the step of estimating, determining that a collision between at least two source device transmissions has occurred on the code channel when the estimated variance exceeds a predetermined threshold~~  
determining if at least one source device signal is present on each available channel;  
determining if two or more source device signals are present on each available channel;  
determining if one source device signal is present on each available channel;  
estimating source device signals on the available channels with one source device signal present;  
removing the estimated source device signals from the composite received signal; and  
terminating the collision mitigation method when no more signals are detected on any of the available code channels.

20. (cancelled).

21. (new) The method of claim 19, wherein the step of determining if at least one source device signal is present comprises determining if an average of an absolute value of a signal level on each available channel exceeds a first predetermined threshold.

22. (new) The method of claim 19, wherein the step of determining if two or more source device signals are present comprises determining if an average of a variance of an absolute value of a signal level on each available channel exceeds a second predetermined threshold.

23. (new) The method of claim 19, wherein the step of determining if one source device signal is present comprises determining if at least one source device signal is present on the available channel and two or more source device signals are not present on the available channel.